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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,930	06/04/1999	HANS FIESEL	C-DIT-1806/F	3464

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EXAMINER	
NATNAEL, PAULOS M	
ART UNIT	**PAPER NUMBER**
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/325,930	FIESEL, HANS	
	Examiner	Art Unit	
	Paulos M. Natnael	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **7-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Boie, U.S. Pat. No. 5,748,262.

Considering claim 7,

a) the claimed a mixer having first and second inputs and an output is met by Multiplier 11, (Fig.2)

b) the claimed first filter being coupled to said first input of said mixer said first filter processing an intermediate-frequency signal into an output signal comprising a selected channel and residues .... of lower adjacent channels, is met by filter 7, Fig. 2, which adapted to eliminate the signals of the channels adjacent to the constant frequency limit of the transposed signal (See col. 3, lines 12-15. See also col. 4, lines 29-51)

c)the claimed an oscillator coupled to said second input of said mixer and adapted to provide an oscillator-signal (u) lying in a range of said lower adjacent picture carrier (NBT), is met by Oscillator 12, Fig.2;

d) the claimed a second filter coupled to said output of said mixer, said second filter having high-pass selectivity skirt for attenuating said residues of said ... lower adjacent channels to a negligible residual amplitude, is met by Filter 13, fig.2;

e) Boie does not specifically disclose attenuating the upper adjacent channels to a residue amplitude by both first and second filters. However, it is notoriously well known in the art of broadcast television to utilize at least two filters (one before and one after the mixer stage), so that the residues of the upper and lower adjacent channels are attenuated. Boie teaches that the signals of the channels (S_{if}^{N+1}, S_{if}^{N-1}) adjacent to the frequency band of the signal to be digitized are eliminated in three stages. In claim 7, the intermediate frequency (IF) signal still contains residues of both adjacent channels. In contrast, Boie eliminates the signals of upper adjacent channel. The IF signals in the Boie system no longer contain upper adjacent channel residues and, in that regard, a designer of such a filter would have better flexibility in the design of the filter since now only the lower channel residues need to be eliminated. FIG. 3D illustrates the signal to be processed and a higher adjacent signal to be eliminated. Col. 5, lines 34-38. Therefore, it would have been an obvious matter of design choice to modify the first filter having residues of both the upper and lower channels in the output of the first filter, since the applicant has not disclosed allowing the output of the residues of both the upper and lower adjacent channels from first filter solves any stated problem or has a particular advantage, and it appears that the first filter of the instant application would be less efficient, since it outputs both upper and lower adjacent channel residues,

compared to the filter 7 of Boie which eliminates any residues of the signals of the upper adjacent channel all together.

As to claim **8,** Boie discloses in FIG.3D wherein "the frequency f.sub.pc has been lowered by a value that depends on the frequency of the local oscillator 12." (Col. 5, lines 14-16)

Considering claim **9**, Boie discloses the Filter 13, Fig. 2. See also col. 5, line 62 through col. 6, line 2.

Considering claim **10**, Boie discloses all claimed subject matter except for the claimed "wherein the local-oscillator signal (u) is a square-wave signal, particularly a signal having the values +1 and –1".

Boie doesn't appear to disclose whether the local-oscillator signal (u) is a square-wave signal with the values +1 and -1. However, Boie suggests that, "the frequency of the oscillator 12 can be modified by means of a voltage U applied to the oscillator 12, in order to adapt the fixed frequency f.sub.Lo to the TV standard concerned". (See col. 5, lines 2-5) Therefore, it would have been an obvious matter of design choice to the skilled in the art at the time the invention was made to modify the oscillator frequency with a desired value as suggested by Boie, since Applicant has not disclosed that having the range of +1 to –1 solves any stated problem, and it appears that any desired value would perform equally well.

Considering claim **11**, the claimed control unit is inherent because a control unit such as a microprocessor, microcomputer, or any type of logic unit would have to be available in order to be able to control the overall function of the system by supply control signals to all units/parts of the system.

Considering claim **12**, the claimed digitizing means, is met analog-to-digital converter (A/D) 23, (Fig.2).

Considering claim **13**, Boie discloses the following claimed subject matter, note;

a) filtering an intermediate-frequency signal with a first filter ***attenuates to provide a filtered intermediate-frequency signal comprising a selected channe***l and residues of lower adjacent channels, is met by the filter 7, Fig.2;

b) generating an oscillator signal, the oscillator signal lying in a rage of said lower adjacent signal, is met by oscillator 12, the frequency of which may be modified. (See also col. 5, lines 2-5)

c) mixing said filtered intermediate-frequency signal and said oscillator signal (u) is met by the Mixer 10, Fig.2;

d) filtering said mixed signals using a second filter having a high-pass selectivity skirt to attenuate said residues of said...lower adjacent channels to a negligible Residual amplitude, is met by the Filter 13, Fig.2;

Except for;

e) separating said high-pass selectivity skirt filtered signal into visual and audible components for reproduction.

f) the claimed attenuating said residues of said upper adjacent channels;

Regarding e), Boie doesn't disclose a method of separating the filtered signal into visual and audible components for reproduction. However, Examiner takes Official Notice here in that separating or demodulating or demultiplexing video/image/picture and audio signal and reproducing separately is well known in the art, and therefore, would have been obvious to the skilled in the art to modify the reference of Boie by providing a demultiplexer so that the signals are appropriately separated and transmitted to appropriate devices such as the display and speakers of the TV receiver.

Regarding f), see rejection of claim 7(e).

Considering claim 14, the claimed wherein said first filter comprises a surface-wave filter, is met by the disclosure that the "two filters are advantageously SAW (surface wave) filters" (col. 3, lines 19-20)

Considering claim 15, see rejection of claim 8;

Considering claim 16, see rejection of claim 9;

Considering claim 17, see rejection of claim 10;

Considering claim 18, is met by A/D converter 23. (Fig.2).

As to claims **19 and 20**, see rejection of claim 11.

As to claims **21 and 22,** see rejection of claims 7 and 13, respectively.

Response to Arguments

3. Applicant's arguments filed July 23, 2007 have been fully considered but they are unpersuasive. The applicant argues:

> "Claims 7-12 now require that the first filter processes "an intermediate-frequency signal into an output signal comprising a selected channel and residues of upper and lower adjacent channels." Claims 13-20 now require "filtering an intermediate-frequency signal with a first filter to provide a filtered intermediate-frequency signal comprising a selected channel and residues of upper and lower adjacent channels. (a) In contrast, Boie discloses in column 4, lines 46-53 and FIG. 3C that the signal at the output of filter 7 (first filter) includes the desired signal 3 (S_{if}^{N}) and a part 9 of only the lower adjacent signal (S_{if}^{N})....Hence, the signal at the output of filter 7 in Boie does not include any portion of the upper adjacent signal (S_{if}^{N+1}), as called for in claims 7-20. Consequently, Boie does not anticipate or render obvious the subject matter of claims 7-20. Accordingly, claims 7-20 are allowable over Boie....New claims 21 and 22 each calls for a first filter that provides a filtered intermediate-frequency signal comprising a selected channel and residues of upper and lower adjacent channels. The cited prior art of

record fail to disclose, teach or suggest such a feature. Accordingly, claims 21 and 22 are allowable." See remarks pg. 7.

Examiner's Response

Abstract of the disclosure teaches:

A method of digitization of an intermediate frequency signal having a bandwidth that can change from one standard to another and of which one of the frequency limits of this band is substantially constant, wherein before converting the analog signal into a digital signal, the signals of the channels (S_{if}^{N+1}, S_{if}^{N-1}) adjacent to the frequency band of the signal to be digitized are eliminated in three stages: in a first stage, the signals (S.sub.if.sup.N+1) of channels adjacent to said substantially constant frequency limit are eliminated by filtering; in a second stage, the signal to be processed is transposed in frequency so that in the transposed signal the variable frequency limit of said band of the signal to be digitized has a substantially constant value; in a third stage, the signals of channels adjacent to the transposed signal are eliminated by filtering. The invention is applicable to the processing of digital IF video signals."

As discussed above in the rejection, it is well known in the art to use at least two filters (one before and one after the mixer stage), so that the residues of the upper and lower adjacent channels are attenuated. Boie teaches the signals of the channels (S_{if}^{N+1}, S_{if}^{N-1}) adjacent to the frequency band of the signal to be digitized are eliminated in

three stages. In claim 7, the intermediate frequency (IF) signal still contains residues of both adjacent channels. In contrast, Boie eliminates the signals of upper adjacent channel. The IF signals in the Boie system no longer contain upper adjacent channel residues since as illustrated in FIG. 3D the signal to be processed and a higher adjacent signal to be eliminated. (Col. 5, lines 34-38) Therefore, the argument that Boie does not render the claim obvious is unpersuasive.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bessho et al. U.S. **5,893,025** discloses a converter for receiving both analog and digital signals comprising filters which attenuate both upper adjacent channel and lower adjacent channel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (571) 272-7354. The examiner can normally be reached on 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paulos M. Natnael
Primary Patent Examiner
Art Unit 2622

September 19, 2007